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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,309	11/14/2003	Nobuhiro Takeda	1232-5209	2114

27123 7590 07/15/2008
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EXAMINER	
DURNFORD GESZVAIN, DILLON	
ART UNIT	PAPER NUMBER
2622	

NOTIFICATION DATE	DELIVERY MODE
07/15/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTOPatentCommunications@Morganfinnegan.com
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Office Action Summary	Application No.	Applicant(s)	
	10/714,309	TAKEDA, NOBUHIRO	
	Examiner	Art Unit	
	Dillon Durnford-Geszvain	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 April 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Claims **1-4** are pending, and claim **1** is amended.

Response to Arguments

2. Applicant's arguments with respect to claim **1** have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims **1-4** rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,211,915 (Harada) in view of 2002/0039144 (Yamada) further in view of US 2001/0020909 (Sakuragi).

5. As to claim **1**, Harada teaches an image sensing apparatus (see Fig. 4) comprising:

an image sensing element 10 having a photoelectric conversion portion at which a plurality of photoelectric conversion elements (11 and 12) are two-dimensionally arrayed,

vertical transfer portions 13 which vertically transfer signal charges stored in the photoelectric conversion portion in accordance with a vertical transfer pulse,

a horizontal transfer portion 14 which horizontally transfers signal charges transferred from the vertical transfer portions in accordance with a horizontal transfer pulse, and

a charge detection portion 15 which converts signal charges transferred from the horizontal transfer portion into a signal voltage or a signal current;

a switch 19 which inputs a reference voltage from a reference power supply E2; and

a driving circuit (see Fig. 4 and Column 4 lines 16-28), and

wherein the reset of the charge detection portion by the driving circuit is continued during the draining of unnecessary charges (Column 5 lines 23-31, wherein the charges are excess charges due to clipping) to provide stable clamping operation (note that this limitation is considered an intended use and does not limit the claim).

What Harada does not teach is draining unnecessary charges from the vertical transfer portion. However, Yamada teaches draining unnecessary charges from the vertical transfer portion ([0277]). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the charge draining of Yamada in the apparatus taught by Harada as this would allow for smear charges to be discharged resulting in less noise.

What neither Harada nor Yamada teach is that the reference voltage is adjusted without transferring signal charges of the photoelectric conversion portion while charge accumulation is executed. However, Sakuragi teaches a reference voltage generator that changes a reference voltage according to the size of a pixel signal to maintain a

high signal to noise ratio ([0217]). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a variable reference signal in the invention taught by Harada in view of Yamada as this would allow for the signal to noise ratio to be kept as high as possible when reading out the signal.

6. As to claim **2**, see the rejection of claim **1** and note that Yamada further teaches that to accomplish the charge draining of claim **1**, the device further includes a horizontal drain 45 which drains unnecessary charges is arranged adjacent to the horizontal transfer portion in a vertical direction of the horizontal transfer portion (see Fig. 15), and when unnecessary charges generated at the vertical transfer portions of said image sensing element reaches a predetermined amount (6S) at the horizontal transfer portion, unnecessary charges are drained to the horizontal drain ([0290]).

7. As to claim **3**, see the rejection of claim **1** and note that Yamada further teaches that to accomplish the charge draining of claim **1**, while signal charges are stored in the photoelectric conversion portion (note that not all pixels are read out in the apparatus of Yamada, [0282]), the vertical transfer portions are driven at high speed to drain unnecessary charges generated at the vertical transfer portions of said image sensing element (they are driven so as to drain smear charges, [0290]).

8. As to claim **4**, see the rejection of claim **1** and note that Yamada further teaches that to accomplish the charge draining of claim **1**, while signal charges are stored in the

photoelectric conversion portion (note that not all pixels are read out in the apparatus of Yamada, [0282]), potentials of the vertical transfer portions are set to the same potential to drain unnecessary charges generated at the vertical transfer portions of said image sensing element (this is part of the driving method of Yamada, see Fig. 16 and [0283]).

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dillon Durnford-Geszvain whose telephone number is (571)272-2829. The examiner can normally be reached on Monday through Friday 8 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Dillon Durnford-Geszvain 7/5/2008

/David L. Ometz/
Supervisory Patent Examiner, Art Unit 2622